

Appl. No. 09/839,636
Amdt. dated **January 23, 2004**
Reply to Office Action of October 3, 2003

Amendments to the Drawings:

The attached sheets of drawings include newly proposed drawings 14-17.

REMARKS/ARGUMENTS

This amendment responds to the Office Action mailed on October 3, 2003. In the Office Action the Examiner:

- objected to the specification for containing certain informalities;
- rejected claims 1, 20–24, 32–36, and 49 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication 2003/0098455 A1 to Amin *et al.* (hereinafter “Amin *et al.*”);
- rejected claims 14–19 under 35 U.S.C. § 103(a) as being unpatentable over Amin *et al.* in view of U.S. Patent Application Publication 2003/0027724 A1 to Rose *et al.* (hereinafter “Rose *et al.*”);
- rejected claims 40, 53, and 56 under 35 U.S.C. § 103(a) as being unpatentable over Amin *et al.* in view of Applicants’ prior art section of the instant application; and
- objected to claims 2–13, 25–31, 37–39, 41–48, 50–52, 54 and 55 as being dependent upon base claims that have been rejected.

With this amendment, claims 1, 4, 5, 7-13, 15-22, 24-44, 48, and 53-56 have been amended for clarity and claim 14 has been cancelled. Accordingly, after entry of this amendment, the pending claims are claims 1-13 and 15–56. No new matter has been added by virtue of these claim amendments.

POWER OF ATTORNEY AND ASSIGNMENT

With this response, Applicants submit a copy of assignment from the inventors to assignee D-Wave Systems, Inc. that has been submitted for recordation on even date herewith. Furthermore, Applicants submit a power of attorney revoking all previous attorneys and nominating Jones Day to represent Applicants.

INFORMATION DISCLOSURE STATEMENTS

This application was filed on April 20, 2001. An Information Disclosure Statement (IDS) was filed on May 23, 2001, which has been considered by the Examiner as of the October 3, 2003 Office Action. However, on March 6, 2003 a second IDS, consisting of references BA through BQ, was filed with the United States Patent and Trademark Office. It is respectfully requested that this second IDS be considered by the Examiner.

AMENDMENTS TO THE SPECIFICATION AND FORMAL DRAWINGS

In the October 3, 2003 Office Action, the Examiner objected to the specification. In particular, the Examiner noted that on page 13, lines 22 and 23, "12" should be replaced by "13" and that on page 18, line 25, " W_{2A} " should be replaced by " W_2 ". With this amendment, Applicants have made the changes requested by the Examiner. Therefore Applicants respectfully request that the objection to the specification be withdrawn.

In addition to the amendments requested by the Examiner, Applicants have made a number of amendments to the specification in order to correct typographical errors. In addition, in order to avoid confusion, Applicants have amended the Appendix beginning on page 56 of the specification so that the figures referenced in this section have unique figure numbers. Accordingly, the figures in the Appendix have been renumbered as follows:

Old Figure number in Appendix	New Figure Number
1	14
2	15
3	16
4	17

Furthermore, the figures in the Appendix beginning on page 56 have been deleted by amendment to the specification and submitted with this response as formal drawings (Fig. Nos. 14 through 17). Furthermore, figure legends found in the Appendix have been moved to the "Brief Description of the Figures" Section beginning on page 9 of the specification.

The first paragraph of the specification has been amended to remove incorrect priority information. Applicants did not intend to claim priority to U.S. Provisional Application Serial Number 60/257,624, filed December 22, 2002. The declaration by the inventors filed on October 12, 2001 in response to the June 14, 2001 Notice of Missing Parts does not have such priority information.

**THE CLAIM REJECTION UNDER 35 U.S.C. § 102(e) SHOULD BE
WITHDRAWN**

The Examiner has rejected claims 1, 20-24, 32-36, and 49 under 35 U.S.C. 102(e) as being anticipated by Amin *et al.* Applicants respectfully traverse the rejection.

Legal Standard

Citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987), § 2131 of the February 2003 Original Eighth Edition of the Manual of Patent Examining Procedure (hereinafter, the "M.P.E.P.") states "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." Furthermore, citing *In re Hoeksema*, 399 F.2d 269 (CCPA 1968), § 2121.01 of the M.P.E.P. states that "[i]n determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'".

As discussed in detail below, the cited art fails to satisfy the requirement of setting forth each and every element of the rejected claims. Therefore, the 35 U.S.C. § 102 rejection should be withdrawn.

The Examiner bases the rejection of Applicants' claims on the apparatus disclosed in Fig. 9 of Amin *et al.* The Examiner states that the apparatus disclosed in Fig. 9 of Amin *et al.* is a qubit system that includes:

- a superconducting loop, the superconducting loop having a phase shift (SQUID magnetometer 702);
- a multi-terminal junction (the intersection of SQUID magnetometer 702 leads with voltmeter 704 leads), coupled to the superconducting loop; and
- a controller coupled to the qubit, (current device 703).

Applicants claim a qubit system comprising a qubit. While Fig. 9 of Amin *et al.* admittedly discloses a superconducting loop, a junction, and a controller, the reference does not recite the claimed qubit. In other words, the magnetometer shown in Fig. 9 of Amin *et al.* is not a qubit. As noted on page 2, line 27 *et seq.* of

Applicants' specification, a qubit is a system having two degenerate quantum states, where the state of the qubit quantum system can have non-zero probability of being found in either degenerate state.

Because Amin *et al.* does not disclose the claimed qubit system, the reference does not anticipate Applicants' claims. Nevertheless, in order to expedite prosecution, Applicants have amended claim 1 to more precisely recite the structure of the claimed qubit systems. In particular, claim 1 has been amended to recite that the qubit includes a multi-terminal junction coupled to a superconducting loop region *thereby forming a superconducting loop*.

Amin *et al.* does not teach or suggest a multi-terminal junction coupled to a superconducting loop region thereby forming a superconducting loop as recited in Applicants' claim 1, as amended. In complete contrast, the superconducting loop in Amin *et al.* (the magnetometer) is a closed loop, independent of any junction.

The differences in the claimed structure and Fig. 9 of Amin *et al.* are significant. Amin *et al.* does not teach or suggest a qubit system that includes a multi-terminal junction coupled to a superconducting loop region thereby forming a superconducting loop. In fact, the only qubit disclosed in Amin *et al.* is a magnetic field source 701 that is proximate to magnetometer 702. See paragraphs 49 and 50 of Amin *et al.* In some embodiments, magnetic field source 702 can be a quantum qubit. However, the quantum qubit Amin *et al.* is not related to the qubit system claimed by Applicants. The quantum qubit of Amin *et al.* is a conventional quantum qubit that lies in *proximity* to magnetometer 702. In complete contrast, the qubit of Applicants' claim 1 includes a superconducting loop.

Claims 20-24, 32-36 and 49 ultimately depend from claim 1 and are patentable over Amin *et al.* for at least the same reasons that claim 1 is patentable over Amin *et al.* Applicants therefore respectfully request that the rejection of claim 1, 20-24, 32-36, and 49 under 35 U.S.C. § 102(e) be withdrawn.

CLAIM REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 14-19 under 35 U.S.C. 103(a) as being unpatentable over Amin *et al.* in view of Rose *et al.* Furthermore, the Examiner has

rejected claims 40, 53, and 56 under 35 U.S.C. 103(a) as being unpatentable over Amin *et al.* in view the prior art section of Applicants' application.

Amin et al. is disqualified as prior art because of a common duty to assign.

Title 35, section 103(c) of the United States Code states that subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f), and (g) of Title 35, Section 102 of the United States Code, shall not preclude patentability where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. According to Section 706.02(l)(1) of the M.P.E.P., this recent change in rule 103(c) applies to all utility applications filed on or after November 29, 1999.

Amin *et al.* was assigned to D-Wave Systems Inc. by each of the inventors of Amin *et al.* in an assignment recorded on reel 012285, from 0322 on October 17, 2001. Each of the inventors of Amin *et al.* were bound by either an employment agreement, or a research agreement, to assign Amin *et al.* to D-Wave Systems at the time the claimed invention was made as follows:

Inventor	Obligation
Mohammad H.S. Amin	Employment agreement
Timothy Duty	Employment agreement
Alexander Omelyanchouk	Research agreement
Geordie Rose	Employment agreement
Alexandre Zagoskin	Employment agreement
Jeremy P. Hilton	Employment agreement

The employment and research agreements binding each of the inventors to assign Amin *et al.* is attached hereto as Exhibit B.

Likewise, each of the inventors of the instant application were bound by either an employment agreement or a research agreement to assign the instant claimed invention to D-Wave Systems Inc. at the time the invention was made. For inventors common to the two applications, the sources of obligation include the same as described above for Amin *et al.* and further include research agreements. For

Alexandre Blais, the source of obligation to assign to D-Wave arose from a research agreement, a copy of which is enclosed in Exhibit B.

Applicants filed the instant application on April 20, 2001. Furthermore, as detailed above, the subject matter disclosed in Amin *et al.* and the instant application were subject to an obligation of assignment to the same entity, D-Wave Systems Inc. at the time the invention was made. Therefore, according to 35 U.S.C. 103(c), Amin *et al.* cannot be used as a 102(e)/103 prior art reference against the instant application.

Rose et al. is disqualified as prior art. The Examiner relies on Rose *et al.* for a 35 U.S.C. § 103(a) rejection of claims 14-19 of the instant application. However, Rose *et al.* is not available as prior art against the above-identified application. Rose *et al.* was filed on December 21, 2001 whereas the above-identified application was filed on April 20, 2001. Rose *et al.* claims priority to two applications, provisional application numbers 60/325,719 and 60/257,624. However, 60/325,719 was filed *after* the filing date of the above-identified application and 60/257,624 was filed December 22, 2000, less than one year before the filing date of the above-identified application. Therefore, 60/257,624 only qualifies as prior art under 35 U.S.C. § 102(e)/103(a). Title 35, § 103(c) of the United States Code states that subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f) and (g) of Section 102 of Title 35 shall not preclude patentability under Section 103 of Title 35 where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. The filing receipt of provisional application 60/257,624 is attached as Exhibit C. Each of the Applicants listed on the filing receipt of 60/257,624 were obligated to assign their interests in the invention to D-Wave Systems, Inc. as evidenced by the employment and research agreements attached hereto as Exhibit B. Therefore, Applicants believe that Rose *et al.* does not qualify as prior art.

Claims 14-19. Since both references relied on by the Examiner to reject claims 14-19 under 35 U.S.C. § 103(a) are disqualified as 103(a) prior art, Applicants respectfully request that the rejection of these claims be withdrawn.

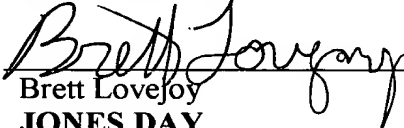
Claims 40, 53, and 56. The Examiner's rejection of claims 40, 53, and 56 under 35 U.S.C. § 103(a) relies on Amin *et al.* Since Amin *et al.* is not valid 103(a) prior art, Applicants respectfully believe that the rejections of claims 40, 53, and 56 is without basis and respectfully request that the rejection be withdrawn.

CONCLUSION

Applicants respectfully request entry of the foregoing amendments and remarks into the file of the above-identified application. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (415) 875-5744.

No fee is believed owed in connection with filing of this amendment and response. However, should the Commissioner determine otherwise, the Commissioner is authorized to charge any underpayment or credit any overpayment to Jones Day Deposit Account No. 16-1150 for the appropriate amount. A copy of this sheet is attached.

Date: January 23, 2004

Respectfully submitted,

Brett Lovejoy 42,813
JONES DAY (Reg. No.)
222 East 41st Street
New York, New York 10017-6702
(415) 875-5744

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

on January 23, 2004.

Typed or printed name of person signing this certificate Brett Lovejoy

Signature: 



Exhibit A

PROPOSED FORMAL DRAWINGS FOR FIGURES 14-17



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Tel.: +(604) 732 6604
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E-mail: zagoskin@dwavesys.com

D-Wave Systems Inc.

June 25, 2001

To: Dr. Mohammad Hadi Sharifzadeh Amin
305-1465 West 12th Ave.
Vancouver, BC, V6H 1M7
Tel: (604) 737-7270

Re: **Employment Offer**

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the "Company").

IN CONSIDERATION of the promises and mutual covenants set forth in this document, and of your employment, and in consideration of the payment of Ten Dollars (\$10.00) and other good and valuable consideration by the Company to you, the receipt and sufficiency of which you hereby acknowledge, we agree as follows:

- 1. Definitions:** Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule "A".
- 2. Term:** Your employment commenced as of **January 1, 2000**, (the "Commencement Date") and will continue until this Agreement is terminated as hereinafter provided.

3. Position and Duties:

- (a) **Position and Duties:** You will be employed by the Company in the position of senior staff scientist. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company. The nature of the business of the Company requires that you be flexible. Accordingly, the Company may assign new or different duties to you or change your position at any time in its discretion.
- (b) **Scope:** During your employment, you will devote the whole of your full time, attention, and abilities to effective and competent performance of your duties, and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

4. Compensation:

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of [REDACTED], payable in equal installments on the 15th and last day of each month net of all required or permitted withholdings and remissions.

Your Salary will be reviewed annually, and may be adjusted by the Company in its discretion.

- (b) **Employee Stock Option Plan:** You will be entitled to participate in the Stock Option Plan (the "Plan") of the Company in accordance with the terms of the Plan as altered or amended by the Board from time to time.
- (c) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to four (4) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.

In the 2001 calendar year only, you will be entitled to take six (6) weeks' vacation as an exception to this policy.

- (d) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended Health
- Dental
- Long-Term Disability
- Life Insurance

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

5. Assignment of Interest in Innovations:

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.
- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company

to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

6. Fidelity and Confidentiality:

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.
- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
 - (i) any information which is presently in the public domain; or
 - (ii) any information that subsequently becomes part of the public domain through no fault of your own.

- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any other information that could concern or be in any way beneficial to the Business of the Company. Any such information communicated to the Company will be and remain the property of the Company.
- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company.

7. Restrictive Covenant

- (a) The parties acknowledge that the business of the Company is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the business of the Company and that the business of the Company would be vulnerable to competition from you.
- (b) Accordingly, you will not during the term of your employment with the Company and for a **one** year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
 - (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;

- (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment of or render any service to, sell to or contract or attempt to contract with, any person, firm, or corporation who was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;
 - (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
- (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
- (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
- (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.
- (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 7, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.

8. Resignation: At any time you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

9. Termination:

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time, the Company may terminate your employment without cause by providing you with four (4) months' written notice, or payment equal to four months' salary in lieu of written notice.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
 - (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
 - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

10. Irreparable Harm: You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.

11. Assignment and Enurement: You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.

12. Severability: If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.

13. Entire Agreement: This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no representations, warranties, collateral terms or conditions, express or implied, other than

as set forth in this Agreement. This Agreement supersedes any written or oral agreement or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.

- 14. Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
- 15. Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
- 16. Survival of Terms:** The provisions of Sections 1, and 5, subsections 6(c), (d) and (g) and Sections 7 to 19 of this Agreement will survive the termination of your employment and this Agreement.
- 17. Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.
- 18. Time:** Time is of the essence of this Agreement.

19. **Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia and the parties agree to conduct any litigation arising from this contract in the province of British Columbia.

THE PARTIES have executed this agreement as of the date written above.

D-WAVE SYSTEMS INC.

Per: _____

for: Alexandre Zagoskin
VP Research and Chief Scientist

Geordie Rose
President

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.

M. Shorif

MOHAMMAD AMIN

Schedule "A"

Definitions are as follows:

"Affiliate" has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

"Board" means the board of directors of the Company.

"Business of the Company" means (i) any development of the Company's; (ii) development of clients of the Company's including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

"Competitive Business" means any business or enterprise that competes with the Business of the Company.

"Confidential Information" means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

"Group" means the Company and its Affiliates.

"Intellectual Property Rights" means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.

STOCK OPTION AGREEMENT

Dear Mohammad Amin:

Re: Stock Options

D-WAVE SYSTEMS INC. (the "Company") hereby offers you an option ("Option") to purchase Class B common shares in the capital of the Company pursuant to the Stock Option Plan established by the Company (the "Plan"), a copy of which is available for review at the office of the Company and will be provided to you upon request, subject to the terms and conditions set out below. All capitalized terms without separate definition have the meaning ascribed to them in the Plan.

Your option is subject to the terms and conditions of the Plan, which are deemed to be incorporated in this agreement, and is subject to the following specific provisions:

Date of Grant: January 1, 2001

Type of Option: Employee

Number of [REDACTED]
Shares:

Exercise Price: [REDACTED] per option

Term of 4 years
Option:

Exercise Period: From the Date of Grant until the Expiry
Dates set out below

Expiry Date: per the Stock Option Plan

Vesting Periods: Your Options will vest as follows:

January 1, 2001 [REDACTED]

January 1, 2002 [REDACTED]

January 1, 2003 [REDACTED]

January 1, 2004 [REDACTED]

Your stock options may be exercised in whole or in part at any time during the Exercise Period by notice in writing to the Company specifying (a) your desire to exercise your Option to purchase shares and (b) the number of shares with respect to which you are exercising your Option. The notice must be accompanied by a cheque or bank draft in favour of the Company payable in Canadian funds in full payment of the Exercise Price for the number of shares then being purchased. The Company may also require you to sign a form in respect of the shares to be purchased.

Any shares issued to you as a result of the exercise of your Option will be issued under an exemption from the prospectus requirements of the British Columbia *Securities Act* and Regulation (the "Act"). The sale by you of those shares is subject to the resale rules of the Act and the articles of the

Company. If you are in doubt about the applicable requirements of the Act, you should seek independent legal advice.

The Company may give you notice (a "Sale Notice") of a proposed sale of shares of the Company which involves a change of control (meaning the right to exercise a majority of the votes which may be cast at a general meeting of the Company). The Sale Notice will include the price per share offered by the proposed purchaser and the other material terms and conditions of the proposed sale. Upon a Sale Notice being delivered to you, the Company may, at its option, require that you sell your shares to the proposed purchaser on the terms and conditions set forth in the Sale Notice, and you agree to do so and to execute and deliver to the Company or the proposed purchaser, or their designate, all documents reasonably required to transfer your shares.

If you would like to accept this Option on the terms and conditions noted, please sign in the space provided below.

D-WAVE SYSTEMS INC.

Per: _____

for Alexandre Zagoskin

*Geordie Rose
President*

I, **Mohammad Amin**,
hereby accept the above stock option
and agree to the terms and conditions
described above, including the terms
and conditions of the Plan, as of this ____
day of _____, 2001.

M. Sharif

Mohammad Amin

Sarah Levine

Witness: *Sarah Levine*
(Please print name)



320-1985 West Broadway
Vancouver, British Columbia
V6J 4Y3 Canada
Tel.: +(604) 732 6604
Fax: +(604) 732 6614
E-mail: zagoskin@dwavesys.com

D-Wave Systems Inc.

July 16, 2001

To: Dr. Timothy Lee Duty
#802 1340 W. 12th Ave.
Vancouver, BC V6H 1M5
(604) 719-5185

Fichtestrasse 15
Erlangen, Germany
91054
049 9131 973 058
049 160 380 3760

Re: Employment Offer

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the "Company").

IN CONSIDERATION of the promises and mutual covenants set forth in this document, and of your employment, and in consideration of the payment of Ten Dollars (\$10.00) and other good and valuable consideration by the Company to you, the receipt and sufficiency of which you hereby acknowledge, we agree as follows:

- 1. Definitions:** Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule "A".
- 2. Term:** Your employment commenced as of January 1, 2000, (the "Commencement Date") and will continue until this Agreement is terminated as hereinafter provided.

3. Position and Duties:

- (a) **Position and Duties:** You will be employed by the Company in the position of staff scientist. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company. The nature of the business of the Company requires that you be flexible. Accordingly, the Company may assign new or different duties to you or change your position at any time in its discretion.
- (b) **Scope:** During your employment, you will devote the whole of your full time, attention, and abilities to effective and competent performance of your duties, and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

4. Compensation:

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of [REDACTED], payable in equal installments on the 15th and last day of each month net of all required or permitted withholdings and remissions.

Your Salary will be reviewed annually, and may be adjusted by the Company in its discretion.

- (b) **Employee Stock Option Plan:** You will be entitled to participate in the Stock Option Plan (the "Plan") of the Company in accordance with the terms of the Plan as altered or amended by the Board from time to time.
- (c) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to four (4) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.
- (d) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended Health
- Dental
- Long-Term Disability
- Life Insurance

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

5. Assignment of Interest in Innovations:

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.
- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as

your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

6. Fidelity and Confidentiality:

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.
- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
 - (i) any information which is presently in the public domain; or
 - (ii) any information that subsequently becomes part of the public domain through no fault of your own.
- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any other information that could concern or be in any way beneficial to the Business

of the Company. Any such information communicated to the Company will be and remain the property of the Company.

- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company.

7. Restrictive Covenant

- (a) The parties acknowledge that the business of the Company is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the business of the Company and that the business of the Company would be vulnerable to competition from you.
- (b) Accordingly, you will not during the term of your employment with the Company and for a one year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
 - (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;
 - (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment of or render any service to, sell to or contract or attempt to contract with,

any person, firm, or corporation who was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;

- (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
 - (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
 - (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
 - (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.
 - (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 7, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.
- 8. Resignation:** At any time you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

9. Termination:

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time, the Company may terminate your employment without cause by providing you with only the minimum notice or payment in lieu of notice requirements, and no more, prescribed by the *Employment Standards Act* (British Columbia) or any successor legislation, as amended from time to time.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
 - (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
 - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

10. Irreparable Harm: You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.

11. Assignment and Enurement: You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.

12. Severability: If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.

13. Entire Agreement: This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no

representations, warranties, collateral terms or conditions, express or implied, other than as set forth in this Agreement. This Agreement supersedes any written or oral agreement or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.

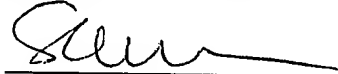
- 14. Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
- 15. Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
- 16. Survival of Terms:** The provisions of Sections 1, and 5, subsections 6(c), (d) and (g) and Sections 7 to 19 of this Agreement will survive the termination of your employment and this Agreement.
- 17. Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.
- 18. Time:** Time is of the essence of this Agreement.

- 19. Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia and the parties agree to conduct any litigation arising from this contract in the province of British Columbia.

THE PARTIES have executed this agreement as of the date written above.

D-WAVE SYSTEMS INC.

Per:

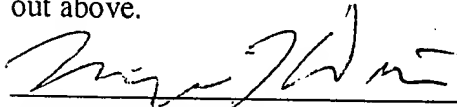


for

Alexandre Zagoskin

VP Research and Chief Scientist

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.



TIMOTHY DUTY

Schedule "A"

Definitions are as follows:

"Affiliate" has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

"Board" means the board of directors of the Company.

"Business of the Company" means (i) any development of the Company's; (ii) development of clients of the Company's including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

"Competitive Business" means any business or enterprise that competes with the Business of the Company.

"Confidential Information" means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

"Group" means the Company and its Affiliates.

"Intellectual Property Rights" means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.

STOCK OPTION AGREEMENT

Dear Tim Duty:

Re: Stock Options

D-WAVE SYSTEMS INC. (the "Company") hereby offers you an option ("Option") to purchase Class B common shares in the capital of the Company pursuant to the Stock Option Plan established by the Company (the "Plan"), a copy of which is available for review at the office of the Company and will be provided to you upon request, subject to the terms and conditions set out below. All capitalized terms without separate definition have the meaning ascribed to them in the Plan.

Your option is subject to the terms and conditions of the Plan, which are deemed to be incorporated in this agreement, and is subject to the following specific provisions:

Date of Grant: January 1, 2001

Type of Option: Employee

Number of [REDACTED]
Shares:

Exercise Price: [REDACTED] per option

Term of 4 years
Option:

Exercise Period: From the Date of Grant until the Expiry
Dates set out below

Expiry Date: per the Stock Option Plan

Vesting Periods: Your Options will vest as follows:

January 1, 2001

January 1, 2002

January 1, 2003

January 1, 2004

Your stock options may be exercised in whole or in part at any time during the Exercise Period by notice in writing to the Company specifying (a) your desire to exercise your Option to purchase shares and (b) the number of shares with respect to which you are exercising your Option. The notice must be accompanied by a cheque or bank draft in favour of the Company payable in Canadian funds in full payment of the Exercise Price for the number of shares then being purchased. The Company may also require you to sign a form in respect of the shares to be purchased.

Any shares issued to you as a result of the exercise of your Option will be issued under an exemption from the prospectus requirements of the British Columbia *Securities Act* and Regulation (the "Act"). The sale by you of those shares is subject to the resale rules of the Act and the articles of the

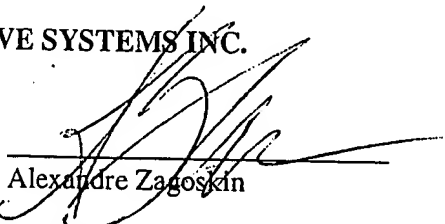
Company. If you are in doubt about the applicable requirements of the Act, you should seek independent legal advice.

The Company may give you notice (a "Sale Notice") of a proposed sale of shares of the Company which involves a change of control (meaning the right to exercise a majority of the votes which may be cast at a general meeting of the Company). The Sale Notice will include the price per share offered by the proposed purchaser and the other material terms and conditions of the proposed sale. Upon a Sale Notice being delivered to you, the Company may, at its option, require that you sell your shares to the proposed purchaser on the terms and conditions set forth in the Sale Notice, and you agree to do so and to execute and deliver to the Company or the proposed purchaser, or their designate, all documents reasonably required to transfer your shares.

If you would like to accept this Option on the terms and conditions noted, please sign in the space provided below.

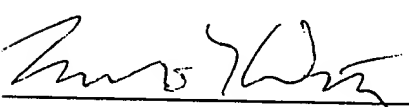
D-WAVE SYSTEMS INC.

Per:



Alexandre Zagoskin

I, **Timothy Duty**,

hereby accept the above stock option
and agree to the terms and conditions
described above, including the terms
and conditions of the Plan, as of this ____
day of _____, 2001.


Timothy Duty

Witness:


Sarah Levine
(Please print name)

CONSULTANT CONTRACT

THIS AGREEMENT made as of the 15th day of May, 2000.

BETWEEN: D-WAVE SYSTEMS INC.
119-1600 W. 6th Ave.
Vancouver, British Columbia
V6J 1R3
Canada

(the "Company")

AND: Prof. Dr. Oleksandr Omelyanchouk,
7-A Garibaldi Ave., Apt. 12
Kharkov 310420
Ukraine

("Consultant")

WITNESSES THAT WHEREAS:

A. The Company is engaged in the business of developing hardware for quantum computing, utilising proprietary software, and Consultant carries on business as a physicist; and

B. The Company wishes to engage Consultant's services, and Consultant wishes to provide his services to the Company, as an expert in mesoscopic superconductivity;

THEREFORE, in consideration of the premises and the mutual covenants contained herein, the parties hereto agree as follows:

ARTICLE 1 - INTERPRETATION

1.01 In this Agreement the expressions following shall have the meanings indicated below:

(a) "Deliverable" or "Deliverables" means an item or items to be delivered by Consultant to the Company pursuant to this Agreement, as set out in Schedule "A" and includes without limitation any part of phase thereof;

(b) "Implementation Schedule" means the schedule for completion of the stages of the Project, as set out in Schedule "B" to this Agreement; and

(c) "Project" means the development of the Deliverables in accordance with this Agreement.

1.02 Any reference to Deliverable in this Agreement shall be deemed to include, unless there is something in the context inconsistent therewith, any and all representations of the Deliverable or any part thereof, whether in paper form or data form or other tangible or intangible form and shall include any and all physical media containing any representation of the Deliverable.

ARTICLE 2 - PROJECT AND REPORTS

2.01 Upon the terms and subject to the conditions set out in this Agreement Consultant agrees to develop the Deliverables for and on behalf of the Company.

2.02 No variation, modification or amendment to the Implementation Schedule shall be made without the prior written consent of both parties.

2.03 The Consultant shall be responsible for providing at its own expense all equipment, facilities, materials, supplies and tools which may be necessary for the Project.

2.04 Consultant may work on the Project in such manner and at such times as he may deem appropriate, provided that the work on the Project is conducted in a timely and efficient manner and in accordance with the Implementation Schedule. If Consultant fails to provide any Deliverable on the respective date set out in the Implementation Schedule, then the Company may, in its sole option, either (i) extend the relevant delivery date or (ii) terminate the Project by written notice to Consultant effective immediately.

2.05 Consultant shall provide oral and written progress reports to the Company when and if reasonably requested by the Company, and shall be available for meetings with the Company from time to time as reasonably requested by the Company.

2.06 Consultant shall maintain throughout the term of the Project, a detailed log of all work done on the Project, including the number of hours worked. The Company may at any time and from time to time review that log.

2.07 While Consultant is on the premises of the Company, he shall comply with the Company's security rules and regulations in place from time to time. Consultant shall not use the Company's premises or computer system for any work not related to the Project. Consultant shall ensure that all of his work on the Project will be the subject of a procedure whereby such work will be copied or otherwise placed on storable media to ensure that all such work products are backed up in case of any loss or damage to the original. All such backups shall be stored at the Company's premises and shall at all times remain the property of the Company.

2.08 The Company may at any time and from time to time, upon ten days' written notice to Consultant, suspend or terminate work on the Project. The Company shall pay Consultant for work performed to the date of suspension or termination within 10 days after receipt of the documents set out in Section 8.02.

2.09 If the Company determines, acting reasonably, that any Deliverable or other work delivered to it by Consultant is not satisfactory, then the Company shall notify Consultant of each of the defects within 10 days after receipt and Consultant shall, within three business days after notice from the Company, notify the Company of the time required by Consultant to remedy all the defects. Upon receipt of such notice from Consultant, the Company may, at its sole option, either (i) permit Consultant to continue work in order to remedy defects, in which case the Implementation Schedule shall be adjusted accordingly, or (ii) terminate the Project by written notice to Consultant effective immediately.

2.10 The Company shall not be required to compensate Consultant for services rendered if any Deliverable or other work is not satisfactory to the Company, acting reasonably, provided the Company notifies Consultant that the Company is not satisfied within 10 days after receipt by the Company of the subject Deliverable or other work.

ARTICLE 3 - CONSIDERATION

3.01 The Company shall pay Consultant for work performed by Consultant on the Project at the [REDACTED] rate of [REDACTED]

3.02 Consultant shall provide to the Company a [REDACTED] invoice for services rendered under this Agreement which invoice shall be delivered to the Company together with a [REDACTED] progress report. Invoices are payable in full by the Company within 30 days after receipt by the Company, subject to Section 2.10 above.

3.03 Consultant is responsible for all taxes, which may be payable or collectible now or in the future as a result of this Agreement, including without limitation goods and services tax.

ARTICLE 4 - TITLE AND PROPERTY RIGHTS

4.01 The Company shall be and at all times shall remain, the exclusive owner of all the Deliverables and all related material, and including all trade secrets, copyright, patent and other intellectual and industrial property rights therein. Consultant hereby assigns to the Company all right, title and interest in and to the Deliverables and all related material and any interest therein which Consultant makes or obtains in the course of Consultant's work on the Project, effective at the time each is created. Consultant hereby irrevocably waives any and all moral rights which he may have in and to the Deliverables and all related material, in favour of the Company and every other person. Consultant agrees to execute such further documents and do such acts and other things reasonably requested by the Company to evidence and effect such ownership, assignment and waiver, and agrees to co-operate with the Company in each application or filing made or proposed by the Company with respect to the Deliverables or any related material as reasonably requested by the Company, in all cases both during the term of the Project and thereafter.

ARTICLE 5 - REPRESENTATIONS AND WARRANTIES

5.01 Consultant makes the following representations and warranties, each of which is material and is being relied upon by the Company and shall be true and correct at the date of execution of this Agreement, as well as for the term of the Project, and as to each of which liability for breach or non-fulfillment shall survive the term of the Project:

- (a) Consultant has the right to enter into this Agreement and to perform all of his obligations hereunder;
- (b) Consultant has the necessary skill and expertise to enable Consultant to perform his obligations under this Agreement and to carry out the Project in a timely and professional manner;
- (c) Each Deliverable shall be original work of the Consultant and the manual described in Schedule A shall be of a standard of quality no lower than the Existing Manual.

ARTICLE 6 - CONFIDENTIALITY AND NON-COMPETE

6.01 Consultant acknowledges and agrees that all material and information of the Company which has or will come into Consultant's possession or knowledge in connection with this Agreement or the performance hereof, including without limitation the proprietary software of the Company, the franchisee procedures and the Deliverables and all related material, consists of confidential and proprietary information, disclosure of which to or use by third parties will be damaging to the Company. Consultant therefore agrees to hold such material and information in strictest confidence, not to make use of such material and information other than for the performance of this Agreement, and not to release or disclose it to any party, in all cases both during the term of the Project and at any time thereafter. Consultant shall promptly notify the Company of the existence of any circumstances surrounding any unauthorized possession or use of the aforementioned confidential material or information of the Company.

6.02 Consultant shall not, either during the term of the Project or for a period of three months thereafter, hire any person then employed by the Company, or any person employed by the Company during the term of the Project without the specific prior written consent of the Company.

6.03 Consultant shall not, at any time during the term of this Agreement and for a period of one year after termination of this Agreement for any reason, directly or indirectly, as a shareholder, employer, employee, partner, proprietor, director, officer, principal, agent, advisor, or on behalf of any firm, corporation or other entity or in any capacity whatsoever either alone or in conjunction with any individual, firm, corporation or other entity, work on any project similar to the Project for any person, firm, corporation or other entity which is engaged in the business of quantum computing hardware, without the specific prior written consent from the Company.

ARTICLE 7 - INDEMNITIES

7.01 Consultant will indemnify and save harmless the Company and its officers, directors, employees and agents, from any and all costs, expenses and claims howsoever arising as a result of the performance or non-performance of services and obligations pursuant to this Agreement by Consultant.

7.02 Consultant will indemnify and save harmless the Company and its officers, directors, employees and agents from any and all costs, expenses and claims, including without limitation amounts paid in settlement, howsoever arising, as a result of any suit or proceeding brought against the Company, or any person to whom the Company has assigned, licensed, sold or otherwise provided any Deliverable, based on a claim that the results of the Project or any element thereof furnished by Consultant under this Agreement, or the use or copying of any of the Deliverables or any part thereof constitutes an infringement of any existing trade secret, copyright, patent, or other intellectual or industrial property right, and Consultant will pay all damages and costs incurred by the Company in respect of such a claim, including without limitation all fees and disbursements for legal and accounting services and services of other consultants.

ARTICLE 8 - REMEDIES OF THE COMPANY

8.01 In addition to the remedies set out in Sections 2.04, 2.08, 2.09 and 2.10 above, the Company may, at its option, at any time prior to the completion of the Project, immediately terminate the Project by written notice to Consultant if:

- (a) Consultant breaches any provision of Sections 6.01 or 6.02 or 6.03;
- (b) Consultant breaches any other provision of this Agreement and fails to remedy such breach on a reasonable basis acceptable to the Company within ten days after receipt of written notice from the Company specifying such breach; or
- (c) Consultant is unable to pay his debts as they come due, or if Consultant ceases or threatens to cease to carry on business or makes an assignment for the benefit of creditors, or if Consultant commits any act of bankruptcy, or if any proceedings under any bankruptcy or insolvency laws are commenced by or against Consultant and are not discontinued within 30 days after commencement.

8.02 Within two days after suspension or termination of the Project in accordance with Section 2.04, 2.08, 2.09, 2.10 or 8.01, Consultant shall deliver to the Company all copies of the Deliverables and all related working papers and documentation which Consultant has completed to the date of termination together with a final invoice for services rendered to the date of termination and a final progress report.

8.03 The remedies of the Company provided for in this Article 8 and elsewhere in this Agreement are neither exclusive nor mutually exclusive, and the Company shall be entitled to resort to any such remedies or any other remedy available to the Company at law or equity, or some or all in any combination, at the Company's discretion. No delay or failure of the Company to exercise a remedy will operate as a waiver thereof.

ARTICLE 9 - ASSIGNMENT

9.01 Consultant shall not assign this Agreement or any right hereunder or sub-contract any part of his obligations under this Agreement without first obtaining the written consent of the Company.

ARTICLE 10 - NOTICE

10.01 Any notice, request, demand, consent or other communication provided or permitted under this Agreement shall be sent in writing and given by personal delivery or transmitted by facsimile or other telecommunication facility, addressed to the party for which it is intended at its address set out below or such other address of which any party may give written notice to the other party:

The Company:

D-WAVE SYSTEMS INC.
119-1600 W. 6th Ave.
Vancouver, British Columbia
V6J 1R3
Canada

Attention:
Facsimile No: (604) 732 6614
Telephone No: (604) 732 6614

Consultant:

Prof. Dr. Oleksandr Omelyanchouk,
7-A Garibaldi Ave., Apt. 12
Kharkov 310420
Ukraine

Telephone No: (380) 572 188 277 (home)
(380) 572 308 578 (office)

Any notice, request, demand, consent or other communication given by facsimile or other telecommunication facility must be confirmed within 48 hours by letter delivered to the appropriate party at its respective address. Any notice so given will be deemed to have been received on the date on which it was delivered or transmitted by facsimile or other telecommunications facility.

ARTICLE 11 - GENERAL

11.01 This Agreement does not constitute Consultant an employee, agent or partner of the Company and Consultant shall have no authority and shall not purport to act on behalf of, or make any commitment purporting to be binding on, the Company.

11.02 This Agreement shall be binding upon and enure to the benefit of the parties hereto and their respective successors and permitted assigns.

11.03 This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements, collateral warranties, negotiations, representations and proposals, written or oral, relating to its subject matter, except as incorporated herein.

11.04 Time shall be of the essence of this Agreement.

11.05 This Agreement shall be governed by the laws of British Columbia and the laws of Canada applicable therein.

IN WITNESS WHEREOF the parties have executed this Agreement as of the date first above written.

D-Wave Systems Inc.

By: G. Rose

Title: President

By: A. Zagoskin

Title: VP Research

C. Amelyanchuk
Consultant

SCHEDULE A

PROJECT SCOPE AND OBJECTIVES

To investigate spontaneous currents (time-reversal symmetry breaking states) [REDACTED]
[REDACTED]

The states with spontaneous superconducting currents will be studied in different types of mesoscopic microstructures [REDACTED]
[REDACTED]
[REDACTED]

DELIVERABLES

Each phase of the Project, as described in Schedule B, shall constitute a Deliverable.

Alexandre Zagoskin
VP Research, D-Wave Systems Inc.

Vancouver, Tuesday, 23 May 2000

Aleksandr Omelyanchouk
Consultant

SCHEDULE B

PROJECT PHASING

Project phasing will be determined by D-Wave Systems Inc. On that basis completion dates are:

Phase 1: June 1-July 31, 2000

The spontaneous currents on the interface between two d-wave superconductors
[REDACTED]

1. Analysis and formulation of the problem. Review of the current state of the problem.

2. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Written report on the results of calculations.

3. Consulting the DWS Inc. staff on the [REDACTED] treatment of the problem. Discussion [REDACTED] of [REDACTED] calculations.

Phase 2: August 1-September 30, 2000.

The spontaneous currents and bistable states [REDACTED]
[REDACTED]
[REDACTED]

1. Analysis and formulation of the problem. Review of the current state of the problem.

2. [REDACTED]

Written report on the results [REDACTED]

3. [REDACTED]

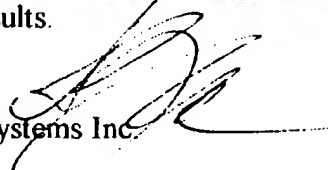
Consulting the DWS Inc. staff [REDACTED] and the discussion of obtained results.

Phase 3: October 1-December 31, 2000.

1. [REDACTED]
[REDACTED]

2. Consulting the DWS Inc. staff [REDACTED] discussion of obtained results.

Alexandre Zagoskin
VP Research, D-Wave Systems Inc.



Aleksandr Omelyanchouk
Consultant



Vancouver, Tuesday, 23 May 2000



320-1985 West Broadway
Vancouver, British Columbia
V6J 4Y3 Canada
Tel.: +(604) 732 6604
Fax: +(604) 732 6614
E-mail: @dwavesys.com

D-Wave Systems Inc.

July 16, 2001

To: Geordie Rose

Re: Employment Offer

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the "Company").

IN CONSIDERATION of the promises and mutual covenants set forth in this document, and of your employment, and in consideration of the payment of Ten Dollars (\$10.00) and other good and valuable consideration by the Company to you, the receipt and sufficiency of which you hereby acknowledge, we agree as follows:

- 1. Definitions:** Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule "A".
- 2. Term:** Your employment commenced as of June 1, 1999, (the "Commencement Date") and will continue until this Agreement is terminated as hereinafter provided.

3. **Position and Duties:**

- (a) **Position and Duties:** You will be employed by the Company in the position of **President and CEO**. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company. The nature of the business of the Company requires that you be flexible. Accordingly, the Company may assign new or different duties to you or change your position at any time in its discretion.

- (b) **Scope:** During your employment, you will devote the whole of your full time, your attention and abilities to effective and competent performance of your duties, and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

4. **Compensation:**

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of [REDACTED], payable in equal installments on the 15th and last day of each month net of all required or permitted withholdings and remissions.

Your Salary will be reviewed annually, and may be adjusted by the Company in its discretion.

- (b) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to four (4) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.

- (c) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended Health
- Dental
- Long-Term Disability
- Life Insurance

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

5. Assignment of Interest in Innovations:

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.
- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as

your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

6. Fidelity and Confidentiality:

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.
- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
 - (i) any information which is presently in the public domain; or
 - (ii) any information that subsequently becomes part of the public domain through no fault of your own.
- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any other information that could concern or be in any way beneficial to the Business

of the Company. Any such information communicated to the Company will be and remain the property of the Company.

- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company.

7. Restrictive Covenant

- (a) The parties acknowledge that the business of the Company is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the business of the Company and that the business of the Company would be vulnerable to competition from you.
- (b) Accordingly, you will not during the term of your employment with the Company and for a **one** year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
 - (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;
 - (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment of or render any service to, sell to or contract or attempt to contract with,

any person, firm, or corporation who was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;

- (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
- (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
- (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
- (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.
- (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 7, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.

8. Resignation: At any time you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

9. Termination:

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time, the Company may terminate your employment without cause by providing you with four months' written notice of its intent to terminate your employment, or payment *in lieu* of written notice.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
 - (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
 - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

10. Irreparable Harm: You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.

11. Assignment and Enurement: You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.

12. Severability: If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.

13. Entire Agreement: This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no representations, warranties, collateral terms or conditions, express or implied, other than as set forth in this Agreement. This Agreement supersedes any written or oral agreement

or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.

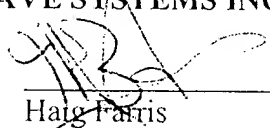
- 14. Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
- 15. Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
- 16. Survival of Terms:** The provisions of Sections 1, and 5, subsections 6(c), (d) and (g) and Sections 7 to 19 of this Agreement will survive the termination of your employment and this Agreement.
- 17. Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.
- 18. Time:** Time is of the essence of this Agreement.

19. **Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia and the parties agree to conduct any litigation arising from this contract in the province of British Columbia.

THE PARTIES have executed this agreement as of the date written above.

D-WAVE SYSTEMS INC.

Per: _____


Haig Farris
Chairman

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.



GEORDIE ROSE

Schedule “A”

Definitions are as follows:

“Affiliate” has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

“Board” means the board of directors of the Company.

“Business of the Company” means (i) any development of the Company’s; (ii) development of clients of the Company’s including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

“Competitive Business” means any business or enterprise that competes with the Business of the Company.

“Confidential Information” means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

“Group” means the Company and its Affiliates.

“Intellectual Property Rights” means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.



D-Wave Systems Inc.

320-1985 West Broadway
Vancouver, British Columbia
V6J 4Y3 Canada
Tel.: +(604) 732 6604
Fax: +(604) 732 6614
E-mail: @dwavesys.com

November 27, 2001

To: Alexandre Zagoskin
2063 W. 8th Ave.
Vancouver, BC
V6J 1W4

Re: Employment Offer

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the "Company").

IN CONSIDERATION of the promises and mutual covenants set forth in this document, and of your employment, and in consideration of the payment of Ten Dollars (\$10.00) and other good and valuable consideration by the Company to you, the receipt and sufficiency of which you hereby acknowledge, we agree as follows:

1. Definitions: Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule "A".
2. Term: Your employment commenced as of June 1, 1999, (the "Commencement Date") and will continue until this Agreement is terminated as hereinafter provided.

3. Position and Duties:

- (a) **Position and Duties:** You will be employed by the Company in the position of Vice-President Research and Chief Scientist. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company.

The nature of the Company's business requires that you be flexible. As such, the Company may assign new or different duties to you or change your title at any time in its discretion. However, the Company expressly acknowledges and agrees that your employment with the Company will be solely related to participation in and management of the development of the Company's technology. The Company expressly acknowledges and agrees that any change in your position that results in the majority of your work time being occupied in tasks outside of the development or management of the Company's technology (a "substantive change") will only be made with your written consent, and any substantive change that you have not consented to will result in constructive dismissal for which you will be entitled to the remedy set out in section 9(b) below, provided you give the Company written confirmation that you do not accept the substantive change and terminate your employment within 14 days of being notified of such change by the Company.

- (b) **Scope:** During your employment, you will devote the whole of your full time, your attention and abilities to effective and competent performance of your duties, and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

As an exception to the above, the Company will permit you to teach one course at the University of British Columbia in the fall term in the years 2001 and 2002, providing that your teaching responsibilities do not occupy more than six (6) hours per week of your working time. In addition, during terms when you are not teaching a course, you may devote a maximum of two (2) hours per week to activities relating to your duties as an adjunct professor at the University .

4. Compensation:

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of [REDACTED], payable in equal instalments on the 15th and last day of each month net of all required or permitted withholdings and remissions.

The Company expressly acknowledges and agrees that you must expressly consent in writing to any downward adjustment in your salary. Failing such consent, any downward adjustment will be deemed to be a constructive dismissal and will entitle you to the remedy set out in section 9(b) below provided you give the Company written confirmation that you do not accept the salary adjustment and terminate your employment within 14 days of being notified by the Company of such change. .

- (b) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to four (4) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.
- (c) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended Health
- Dental
- Long-Term Disability
- Life Insurance

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

5. Assignment of Interest in Innovations:

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and

irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.

- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

6. Fidelity and Confidentiality:

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and

for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.

- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
 - (i) any information which is presently in the public domain; or
 - (ii) any information that subsequently becomes part of the public domain through no fault of your own; or
 - (iii) any information that the Board has specifically authorized the release or publication of.
- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any other information that could concern or be in any way beneficial to the Business of the Company. Any such information communicated to the Company will be and remain the property of the Company.
- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company. The only exception to this policy is for specifically itemized property which the Board has granted you permission to retain, where such permission has been sought and obtained after the date of your termination.

7. Restrictive Covenant

- (a) The parties acknowledge that the business of the Company is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the business of the Company and that the business of the Company would be vulnerable to competition from you.

- (b) Accordingly, you will not during the term of your employment with the Company and for a one year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
- (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;
 - (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment of or render any service to, sell to or contract or attempt to contract with, any person, firm, or corporation who was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;
 - (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
- (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
- (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
- (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.

- (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 7, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.

8. **Resignation:** At any time you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

9. **Termination:**

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time, the Company may terminate your employment without cause by providing you with twelve (12) months' written notice of its intent to terminate your employment, or payment of salary (as defined in 4(a)) *in lieu* of written notice. Payment of salary (as defined in 4(a)) *in lieu* of notice will be made in instalments, on the dates that the Company would have paid your salary had you continued to be employed. Subject to the *Employment Standards Act (British Columbia)* if you obtain any other employment during the 12 months subsequent to your termination, the Company's obligation to continue to make payments to you will thereupon cease.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
- (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
 - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

10. **Irreparable Harm:** You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.
11. **Assignment and Enurement:** You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.
12. **Severability:** If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.
13. **Entire Agreement:** This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no representations, warranties, collateral terms or conditions, express or implied, other than as set forth in this Agreement. This Agreement supersedes any written or oral agreement or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.
14. **Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
15. **Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
16. **Survival of Terms:** The provisions of Sections 1, and 5, subsections 6(c), (d) and (g) and Sections 7 to 19 of this Agreement will survive the termination of your employment and this Agreement.
17. **Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.


18. Time: Time is of the essence of this Agreement.

19. **Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia and the parties agree to conduct any litigation arising from this contract in the province of British Columbia.

THE PARTIES have executed this agreement as of the date written above.

D-WAVE SYSTEMS INC.

Per:


Hail Parris
Chairman

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.


ALEXANDRE ZAGOSKIN

Schedule "A"

Definitions are as follows:

"Affiliate" has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

"Board" means the board of directors of the Company.

"Business of the Company" means (i) any development of the Company's; (ii) development of clients of the Company's including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

"Competitive Business" means any business or enterprise that competes with the Business of the Company.

"Confidential Information" means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

"Group" means the Company and its Affiliates.

"Intellectual Property Rights" means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.



D-Wave Systems Inc.

320-1985 West Broadway
Vancouver, British Columbia
V6J 4Y3 Canada
Tel.: +(604) 732 6604
Fax: +(604) 732 6614
E-mail: sarah@dwavesys.com

June 7, 2001

To: Jeremy P. Hilton
Apt. 2 – 2160 West 39th
Vancouver, BC
V6M 1T5

Re: Employment Offer

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the “Company”). If you agree with these terms, please return to us a signed copy of this Agreement.

We agree as follows:

1. Definitions: Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule “A”.

2. Term: Your employment will commence as of January 1, 2001.

(the “Commencement Date”) and will continue until this Agreement is terminated as hereinafter provided.

3. Position and Duties:

(a) **Position and Duties:** You will be employed by the Company in the position of **Intellectual Property Co-ordinator**. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company. The nature of the business of the Company requires that you be flexible. Accordingly, the

Company may assign new or different duties to you or change your position at any time in its discretion.

- (b) **Scope:** During your employment, you will devote the whole of your full time, attention and abilities to effective and competent performance of your duties and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

4. Compensation:

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of [REDACTED] **per annum**, payable in equal installments on the 15th and last day of each month net of all required or permitted withholdings and remissions.

Your Salary will be reviewed annually and may be adjusted by the Company in its discretion.

- (b) **Employee Stock Option Plan:** You will be entitled to participate in the Stock Option Plan (the "Plan") of the Company in accordance with the terms of the Plan as altered or amended by the Board from time to time.
- (c) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to two (2) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.
- (d) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended health
- Dental
- Long-term disability
- Life

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

5. Assignment of Interest in Innovations:

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not to claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.
- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as

your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

6. Fidelity and Confidentiality:

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.
- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
 - (i) any information which is presently in the public domain; or
 - (ii) any information that subsequently becomes part of the public domain through no fault of your own.
- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any

other information that could concern or be in any way beneficial to the Business of the Company. Any such information communicated to the Company will be and remain the property of the Company.

- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company.

7. Restrictive Covenant

- (a) The parties acknowledge that the Company's business is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the Company's business and that the Company's business would be vulnerable to competition from you.
- (b) Accordingly, you will not during the term of your employment with the Company and for a **one** year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
 - (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;
 - (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment

of or render any service to, sell to or contract or attempt to contract with, any person, firm, or corporation who was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;

- (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
- (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
- (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
- (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.
- (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 8, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.

- 8. Resignation:** At any time after completion of the Probation Period you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

9. Termination:

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time after completion of the Probation Period, the Company may terminate your employment without cause by providing you with only the minimum notice or payment in lieu of notice requirements, and no more, prescribed by the *Employment Standards Act* (British Columbia) or any successor legislation, as amended from time to time.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
 - (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
 - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

10. Irreparable Harm: You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.

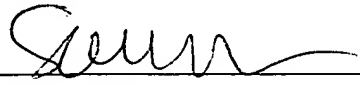
11. Assignment and Enurement: You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding

upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.

- 12. Severability:** If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.
- 13. Entire Agreement:** This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no representations, warranties, collateral terms or conditions, express or implied, other than as set forth in this Agreement. This Agreement supersedes any written or oral agreement or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.
- 14. Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
- 15. Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
- 16. Survival of Terms:** The provisions of Sections 1, and 6, subsections 7(c), (f) and (g) and Sections 8 to 20 of this Agreement will survive the termination of your employment and this Agreement.
- 17. Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.
- 18. Time:** Time is of the essence of this Agreement.
- 19. Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia.

THE PARTIES have executed this agreement as of the date written above.

D-WAVE SYSTEMS INC.

Per: 
Sarah Levine
VP, Legal Affairs

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.


Jeremy P. Hilton

Schedule "A"

Definitions are as follows:

"Affiliate" has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

"Board" means the board of directors of the Company.

"Business of the Company" means (i) any development of the Company's; (ii) development of clients of the Company's including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

"Competitive Business" means any business or enterprise that competes with the Business of the Company.

"Confidential Information" means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

"Group" means the Company and its Affiliates.

"Intellectual Property Rights" means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.

20.

RESEARCH AGREEMENT

PRIVE

BETWEEN: **UNIVERSITÉ DE SHERBROOKE**, a legally constituted moral body, with its principal place of business at 2500 boul. de l'Université, Sherbrooke (Québec) J1K 2R1, herein represented by Mr. Jean Nicolas, Vice-President research,

hereinafter "the University"

AND: **D-WAVE SYSTEMS INC.**, legally constituted moral body, with its headquarters or principal place of business at 320-1985 West Broadway, Vancouver, British Columbia, Canada, V6J 4Y3, herein represented by Dr. Geordie Rose, President,

hereinafter "D-Wave"

WHEREAS D-Wave Shall issue [REDACTED] Shares to the University at the signature of the present agreement in addition to the financing considerations;

WHEREAS D-Wave Shall issue [REDACTED] Shares to the University on every patent filed by D-Wave on which one or more of the Inventors are from the University.

WHEREAS Mr. Alexandre Blais is given the option to purchase: On September 1, 2000, at a strike price of [REDACTED] per share, up to [REDACTED] Shares in D-Wave; On September 1, 2001, at a strike price of [REDACTED] per share, up to [REDACTED] in D-Wave; On September 1, 2002, at a strike price of [REDACTED] per share, up to [REDACTED] Shares in D-Wave.

The University and D-Wave agree to the following:

ARTICLE 1.0 GOAL

- 1.1 The present Agreement governs the realisation at the University of tasks described in the research proposal entitled "**Quantum computing systems**", ("the project"), which constitutes Appendix 1 herein, in accordance with the terms and conditions hereinafter stipulated.

ARTICLE 2.0 SCIENTIFIC DIRECTION

- 2.1 The scientific direction of the Project is the responsibility of André-Marie Tremblay , professor in the department of Physics, and Serge Lacelle, professor in the department of Chemistry of the University's faculty of Sciences, hereinafter the «Principal Investigators».

ARTICLE 3.0 DURATION OF THE AGREEMENT

- 3.1 The Agreement takes effect on January 1st, 2000 and ends on December 31st, 2002, for a total duration of 3 years.

ARTICLE 4.0 REPORT(S) OR SERVICE(S) TO BE RENDERED

- 4.1 The report(s) or service(s) to be rendered as well as the timetable of the realisation of each of the stages of the Project are described at Appendix 1.

ARTICLE 5.0 FINANCING AND PAYMENT CONSIDERATIONS

5.1 Financing

Upon the execution by the University of the tasks it has agreed to within the Project, D-Wave shall pay it the sum of [REDACTED], in Canadian currency.

This amount shall be paid in six (6) instalments, by cheque to the order of the University, according to the following invoicing schedule:

- at the Agreement's signature:

- [REDACTED]

- at the september 1st, 2000:

- [REDACTED]

- at the January 1st, 2001:

- [REDACTED]

- at the July 1st, 2001:

- [REDACTED]

- at the January 1st, 2002:

- [REDACTED]

- at the July 1st, 2002:

- [REDACTED]

These amounts are payable within a delay of 30 days following the reception of the University's invoicing. An annual interest rate of 8% may be demanded on the amounts unpaid after the 30-day period following said invoicing.

ARTICLE 6.0 LIMITATION OF FINANCIAL LIABILITY

6.1 Total financial liability of D-Wave is described at article 5. No surpassing of these amounts can be allowed without the express written consent of both parties. In addition, no task may be undertaken without prior written consent of the Parties, if it surpasses the boundaries as set out in Appendix 1 and if it increases the D-Wave's financial liability beyond the amounts provided for at article 5.

ARTICLE 7.0 EQUIPMENT AND SUPPLIES

7.1 The equipment and supplies purchased by the University for the purposes of the Project remain its property.

ARTICLE 8.0 CONFIDENTIALITY

8.1 **Definition Of Confidential Information.** For their mutual benefit, the Parties recognise that either party may disclose Confidential Information to the other in order to allow for the realisation of the Project. The Parties acknowledge that the terms and conditions of this Agreement, the existence of the discussions between D-Wave and the University and information concerning the Subject Matter, including but not limited to, each party's product plans, designs, costs, prices and names, finances, marketing plans, business

opportunities, personnel, research, development or know-how, will be considered confidential ("Confidential Information"); provided that information disclosed by the disclosing party ("Discloser") will be considered Confidential Information by the receiving party ("Recipient"), only if such information is conspicuously designated as "Confidential": (a) in writing, if communicated in writing, or (b) confirmed in writing within thirty (30) days of disclosure if disclosed orally. Notwithstanding the foregoing, Confidential Information shall not include information that: 1) is now or subsequently becomes generally available to the public through no fault or breach on the part of Recipient; 2) Recipient can demonstrate to have had rightfully in its possession prior to disclosure to Recipient by Discloser; 3) Recipient can demonstrate was independently developed by Recipient without the use of Discloser's Confidential Information; or 4) Recipient rightfully obtains from a third party who has the right to transfer or disclose it.

- 8.2 **Nondisclosure and Nonuse of Confidential Information.** The University agrees to use reasonable care, but in no event no less than the same degree of care that it uses to protect its own confidential and proprietary information of similar importance, to prevent the unauthorized use, disclosure, publication or dissemination of Confidential Information disclosed by D-Wave. The University agrees not to use Confidential Information otherwise for its own or any third party's benefit without the prior written approval of an authorized representative of D-Wave in each instance. The University may disclose Confidential Information if required by any judicial or governmental request, requirement or order; provided that the University will give D-Wave sufficient prior notice in order to contest, or seek confidential treatment of information in connection with, such request, requirement or order.
- 8.3 The Party receiving disclosure will not obtain rights or interests therein and such transfer of Confidential Information shall not be construed as a grant of any right or license with respect to the information delivered, these rights remaining the property of the disclosing Party.
- 8.4 All confidentiality undertakings made by virtue of the present Agreement shall continue to have full effect for a period of three (3) years after the end of the Agreement.

ARTICLE 9.0 DISCLOSURES AND PUBLICATIONS

- 9.1 The Parties recognise that the disclosure of information for teaching and research purposes is part of the University's role. However, they

agree that the premature disclosure of certain results may put at risk their potential commercial value. Disclosure includes theses, memorandums, scientific articles, seminars and other written and oral presentations.

9.2 The University reserves itself the right to authorise students to prepare masters as well as doctoral theses regarding the Results of the Project, and as the case may be, to request outside experts to evaluate, as members of the jury, said theses.

9.3 Any disclosure of results must nonetheless be authorised beforehand in written by the Principal Investigators as well as by D-Wave, according to the following provisions:

- a) the University submits to D-Wave any Projected information disclosure regarding the Project, at least forty-five (45) days before its presentation or publication;
- b) if D-Wave does not contest this disclosure in writing within fifteen (15) days of the reception of the Projected disclosure, it shall be presumed to have given its approval and the University may then disclose the information;
- c) if D-Wave contests the Projected disclosure, in writing and within the aforementioned time period, the Parties must then negotiate an acceptable version of the Projected disclosure, including the date of disclosure in that case, within the above-mentioned forty-five (45) day time period of sub-paragraph a);
- d) D-Wave cannot refuse to give its approval unless the Projected disclosure puts at risk the protection and potential commercial value of the Project's Results. In the event that such proposed disclosure or publication involves the disclosure of any invention that D-Wave may wish to evaluate for patenting, the University agrees to defer any such disclosure or publication for an adequate period of time but no longer than six (6) months from the date the material was first submitted to allow for the preparation and filing of any desired patent applications. The disclosure shall be authorised as soon as the patent application is completed.

Subject to the respect of the provision of article 8 (Confidentiality), any postponed disclosure cannot exceed six (6) months following the end of the Agreement.

ARTICLE 10.0 OWNERSHIP OF PROJECT RESULTS

- 10.1 Project Results include, without limitation, copyrights, rights stemming from inventions, including know-how, technical information, models, patterns, designs, drawings and plans, specifications, prototypes, software and other documents, fine-tuned or developed within the context of the Project and which may or may not be subjected to any form of intellectual property protection.
- 10.2 Whenever D-Wave pays an installment as per the schedule on pages 2 and 3 of this Agreement, all Property Rights to all Project Results generated by the University up to the date of the installment payment are automatically transferred to D-Wave by the University. The Project Results assigned to D-Wave will be and remain the exclusive property of D-Wave.
- 10.3 Following the applying of paragraph 10.2, the Parties agree that the University shall benefit of an irrevocable, non-exclusive, non-transferable and exempt of dues license, in order to utilise the Project's Results for non-profit teaching and research ends. It is understood that this license shall be exercised in accordance with the provisions of articles 8 and 9.

ARTICLE 11.0 COMMERCIAL EXPLOITATION OF THE RESULTS BY THE UNIVERSITY

- 11.1 D-Wave grants to The University, an exclusive option to secure any license to use the Project Results that are protected by patent, copyright or industrial secret in application fields unrelated to quantum computing. Such option shall be in effect and exercisable for a term not exceeding 5 years after the termination of the Project.
- 11.2 The Parties agree to negotiate in good faith the terms and conditions of the said license on the Project Results within the delay above-mentioned, on the basis of the following criteria:
- The degree of legal protection (for each intellectual property right or trade secret) that can be granted on the Results;
 - Direct and indirect financial and scientific contributions from each Party in connection with the Project Results;
 - The degree of freedom granted by D-Wave to allow for disclosure of the University proposed publications on the Project Results;

- The extent of the rights granted in a commercial license, i.e. application fields, duration, exclusivity term, right to sub-license, legal responsibility, etc.;
- The limits of the Parties' respective responsibilities in defense and indemnisation of Intellectual Property Rights on the Project Results.

ARTICLE 12.0 PUBLICITY

- 12.1 The University and D-Wave agree not to use the name of the other Party, nor that of one of the other Party's members, for publicity means without the prior written consent of the other Party. However, they agree that they may mention, without prior authorisation of the other Party, the partnership existing between the Parties, without disclosing the terms and conditions of the agreement.

ARTICLE 13.0 COMPLETENESS AND MODIFICATION OF AGREEMENT

- 13.1 The Agreement contains the complete and unique text of the understanding arrived at between the parties. It replaces and ends any and all past Agreements, representations, negotiations or proposals regarding the subject of the present Agreement. The annexes form an integral part of this Agreement.
- 13.2 No change to nor modification of the Agreement or Project, nor any renunciation with respect to its provisions or conditions, shall be made and considered valid without the express written consent of the Agreement's signatories or of their mandatories.

ARTICLE 14.0 ASSIGNMENT

- 14.1 No Party may transfer its rights and obligations resulting from the Agreement without the express written consent of the other Party.
- 14.2 No Party can retain the personalised services of an employee of the other Party for the accomplishment of tasks provided in the Project for the duration of the agreement, unless it has received favourable, prior written notice from its employer.

ARTICLE 15.0 LIMITATION OF GUARANTEES

- 15.1 The Parties undertake to cooperate fully towards the realisation of the Project. Each Party undertakes to make all the necessary efforts towards the execution of its tasks under this Project.
- 15.2 In light of the research in this Project, D-Wave recognises that the University undertakes no guarantee of result.
- 15.3 D-Wave further frees the University from all liability resulting or that may result from the use, application or interpretation of the tasks' Results, be they part of a report or not.

ARTICLE 16.0 LIABILITY AND INDEMNIFICATION

- 16.1 D-Wave undertakes to indemnify and hold harmless the University, its trustees, officers, agents and employees from any and all direct liability, direct loss or direct damage they may suffer as the result of claims, demands, costs or judgements, and to take up their defense, with regard of any action or lawsuit arising out of the activities to be carried out pursuant to the Project or from the use by the actual or eventual holders, known or unknown, of rights granted to D-Wave by virtue of article 10 (Intellectual Property) or 11 (Commercial applications) of this Agreement. Otherwise, the University will have no liability to the D-Wave for any damage whatsoever.
- 16.2 The University undertakes to indemnify and hold harmless D-Wave, its trustees, officers, agents and employees of any and all liability, loss or damage they may suffer as the results of claims, demands, costs or judgements, and to take up their defense, with regard of any action of lawsuit arising out of injuries (including death) to the individuals participating in the Program and under the administrative control of the University (including individuals hired by the Principal Investigators to realise certain tasks related to the Program) concerning damages to the property of the University or D-Wave, by these individuals, within the realisation of the Program (including within the premises leased by the University, or which have been lent by third parties not part of this Agreement).
- 16.3 As the case may be, the University undertakes to assume, before any accident or disaster, the civil liability which devolves to an individual hired by the Principal Investigators to realise certain tasks related to the Project, in the case of personal and material damages, or deprivation of enjoyment caused by this individual, as long as said damages result from the execution of the Agreement.

ARTICLE 17.0 ETHICAL CONSIDERATIONS

- 17.1 D-Wave recognises that the Principal Investigators as well as all the individuals involved in the Project by the University or the Principal Investigators are subject to the University's Research and Creation Ethics Code.
- 17.2 The Parties confirm that no advantage of any nature has been promised, nor offered, nor conferred to anyone as a result of or in the event of the conclusion of the Agreement, and that no one has been employed in order to solicit nor secure the Agreement, in return for a promised commission, percentage, brokering or agency fee, or eventual personal profit.
- 17.3 Each Party undertakes to denounce to the other, in writing, any potential or real conflict of interest involving its personnel, or the other persons that the Party implicates in the Project once said conflict of interest is known of in relation with said Project.

ARTICLE 18.0 ACT OF GOD

- 18.1 One of the parties cannot be held responsible with regard to the other as a result of any delay or default concerning the Project's unfolding, and which is caused by circumstances beyond its control, including, without limitation, natural disasters, fires, employment conflicts or certain governmental measures.

ARTICLE 19.0 TERMINATION

- 19.1 The University may terminate the present Agreement in one of the following cases:
- a) following a breach or failure of the other Party, within thirty (30) days of the reception of a written notice of breach or failure by the presumed failing or breaching Party, if the latter has taken no measures to remedy such breach or failure in the interim;
 - b) in the event of the death, departure or physical incapacity of one of the Principal Investigators, or of Alexandre Blais, one of the Parties may terminate the Agreement, totally or partially, upon a sixty (60) days notice of termination. Within this delay, the Parties may also agree on the means to terminate the Project.

- c) In the event of termination by one of the Parties, the University shall return to D-Wave any monies received but not encumbered as of the date of Termination. D-Wave undertakes to settle all of the University's expenses and all its reasonable obligations which relate to the Project until the date of the termination of the Agreement, to the extent that these expenses and obligations were incumbent on the University, by virtue of Appendix 1.

19.2 D-Wave may terminate the present Agreement at any time after December 31st, 2001, upon a sixty (60) days notice of termination.

19.3 Automatic Termination:

- a) The Agreement automatically ends and the University is freed from its obligations therein if D-Wave declares bankruptcy or becomes insolvent, is placed under receivership in favour of its creditors, or if an order is rendered or a resolution adopted for the liquidation of its assets, or if it avails itself of any law or act concerning insolvent or bankrupt debtors.
- b) In the event of automatic Termination, the University shall return to D-Wave any monies received but not encumbered as the date of termination. D-Wave undertakes to settle all of the University's expenses, and all its reasonable obligations which relate to the Project, until the date of the Termination of the Agreement, to the extent that these expenses and obligations were incumbent on the University by virtue of Appendix 1, and the University shall remit to D-Wave all documents detailing the Results obtained up to the date of the termination of the Agreement. The University shall conserve the intellectual property rights on said Results and the University shall be freed from all its obligations toward D-Wave.

ARTICLE 20.0 EXTENSION OF PROVISIONS

20.1 Notwithstanding the end of the Agreement, for whatever reason, articles 12- Publicity, 15- Limitation of guarantees and 16- Liability and Indemnification shall continue to apply for an indefinite period, above and beyond the provisions specified in the law.

ARTICLE 21.0 PARTIES' STATUS

21.1 This Agreement does not make one of the Parties the agent of the other, nor its legal representative, joint venture partner, associate,

employee or clerk. It thus creates no fiduciary nor mandatory relationship between the parties.

- 21.2 Each of the Parties herein recognises and agrees that it has no authority to assume nor create any obligation in the other's name, either expressly or implicitly, except that which is strictly and expressly provided for in this Agreement. Each of the Parties also recognises and agrees that it has no authority to bind the other in any way, nor to incur the other's liability.

ARTICLE 22.0 GOVERNING LAW

- 22.1 The Parties agree that the laws of the Province of Québec govern the present Agreement, and determine its application and interpretation. The parties further agree that for any disputes other than those mentioned at paragraph 23.1, only the courts of the district of Saint-François have jurisdiction.

ARTICLE 23.0 SETTLEMENT OF DISPUTES

- 23.1 Any disagreement between the Parties with respect to the interpretation, application or administration of this Agreement, or any failure of the Parties to reach an Agreement when necessary, referred to herein as "disputes", must be resolved in accordance with the provisions of the present article, to the exclusion of any recourse before the courts.
- 23.2 The Parties shall make all reasonable and possible efforts to settle the dispute quickly and amicably, through mediation or otherwise. If it is not quickly resolved, the Parties must agree as to the guidelines necessary to the good execution of the Project, in order to avoid any delays while the Parties await the outcome of the dispute.
- 23.3 The Parties agree to reveal all the facts, to provide all the information and to furnish all the relevant documents which may hasten the settlement of the dispute, the whole without prejudice to their rights, in an honest manner and with due diligence.
- 23.4 If the dispute is not settled within 5 days following its submittal to the other Party, or within any additional delay agreed to by the Parties, one or the other of the Parties can then request that the dispute be definitively resolved by means of arbitration, in accordance with sections 940 and following of the Québec Code of civil procedure, by delivering written notice to that effect to the other Party.

- 23.5 The Parties may either choose a sole arbitrator, or each name its respective arbitrator, within 5 days of the notice mentioned at preceeding paragraph . If two arbitrators are chosen, these two then jointly select a third one within 5 days of their nomination. The arbitrator, or as the case may be, the arbitrators, must proceed with great diligence in hearing the Parties and delivering them the decision. They apply the procedural rules that they wish.
- 23.6 The arbitration hearing must be held in *huis clos*.
- 23.7 The arbitration hearing shall take place at Sherbrooke, Québec.
- 23.8 The arbitrator's(s') decision is final and binding upon the Parties.
- 23.9 Each Party must assume the costs incurred for the presentation of its proof and its arguments, as well as the fees and expenses of its respective arbitrator, when the dispute is submitted to three arbitrators. All other costs relating to the arbitration are to be assumed equally by the Parties.

ARTICLE 24.0 NOTICE

- 24.1 Any notice required by virtue of this Agreement, must be given in writing at the below addresses, in order to be valid and binding upon the Parties:

To the University :

UNIVERSITE DE SHERBROOKE
c/o Bureau de Liaison entreprises-Université
2500 Blvd. Université
Sherbrooke (Québec)
J1K 2R1
Tel. : (819) 821-7840
Fax : (819) 821-8215

To D-Wave :

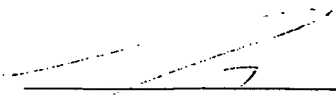
D-WAVE SYSTEMS INC.
c/o Dr. Geordie Rose
President
320-1985 West Broadway
Vancouver (British Columbia)
V6J 4Y3
Tel. : (604) 732-6604
Fax : (604) 732-6614


- 24.2 Any change of address of one of the Parties must be confirmed through written notice to the other Party, by registered mail.
- 24.3 Any notice must be sent to the address indicated above or to any new address indicated following a change as described in preceeding paragraph.
- 24.4 Any notice will be deemed to have been received, if sent by registered mail or delivered by hand, upon documented proof of such reception; if sent by fax, with electronic receipt, upon reception, when correctly addressed.

IN WITNESS OF WHICH the Parties herein have duly signed this Agreement at the below dates:

For UNIVERSITÉ DE SHERBROOKE:

per:



Jean-Nicolas
Vice-President, Research

Witness:  September 21st, 2000 at Sherbrooke

For D-WAVE:

per:


Georgie Rose
President

Witness:  January 19th, 2004 at Vancouver

APPENDIX 1

QUANTUM COMPUTING SYSTEMS

320-1985 West Broadway
Vancouver, British Columbia
V6J 4Y3 Canada
Tel.: +(604) 732 6604
Fax: +(604) 732 6614
E-mail: rose@dwavesys.com

September 29, 2000

Letter of Intent

Re. «The Project»: Quantum Computing Systems

D-Wave Systems Inc. (D-Wave, or «The Company») is a Canadian (British Columbia) company, which designs, manufactures and patents hardware and software components of quantum computing systems. We wish to enter into a collaborative agreement with Profs. André-Marie Tremblay, Serge Lacelle, professors in the employ of the Université de Sherbrooke (hereafter «Sherbrooke») and with Alexandre Blais, PhD student. This document contains the proposed terms of the research proposal. This document will become «annex 1» of the research agreement.

We present here (1) the tasks to be performed, (2) the objectives of these tasks, (3) nature of the support provided by D-Wave, and (4) the time scale over which these tasks are to be completed. We recognize that the end results of any research of this nature cannot be predicted with certainty. For this reason, when presenting the objectives of these tasks, we always present a «best case scenario»—the end result that we would most like to see.

1. Tasks to be Performed

1.1 Broad areas

There are four broad areas in which research is to be undertaken. These are

A. Theory of gate operations in solid state quantum computation;

B. Theory of [REDACTED] in quantum devices [REDACTED];

C. Development of algorithms which take advantage of quantum parallelism.

D. Adaptation of quantum algorithms [REDACTED].

1.2 Specific tasks

These broad areas may further be subdivided into specific tasks. In each case, the physical systems to be investigated are specific physical systems which are currently being manufactured and characterized by D-Wave. Therefore the theory required must be specific to the systems we are interested in. To this end, «qubits» here refer to specific device designs provided by D-Wave to Sherbrooke and possibly designs developed by workers at Sherbrooke.

A. Theory of gate operations in solid state quantum computation

- [REDACTED]

B. Theory of [REDACTED] quantum devices and [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]

C. Development of algorithms which take advantage of quantum parallelism;

- [REDACTED]

D. Adaptation of quantum algorithms to [REDACTED]

- Optimization of quantum algorithms for [REDACTED]
- Adaptation of existing quantum [REDACTED] algorithms to [REDACTED]

All of these tasks will receive support from the theory division of D-Wave (nature of the support will be detailed in section 3.).

The researchers at Sherbrooke will also be involved in the theoretical analysis of experimental testing of D-Wave's devices as quantum information processors.

2. Objectives of the Research—Best Case Scenarios

Our interest in this project is twofold. Firstly, we wish to develop a working relationship with Profs. Tremblay and Lacelle and with Alexandre Blais. Having these researchers involved and interested in our project would be a major bonus for us. Our best case scenario in this regard is as follows. We want to establish and maintain an ongoing relationship with the above Sherbrooke researchers, and perhaps even enlarge this collaboration if warranted by new hiring or changes in research projects at Sherbrooke. Our company will have significant scientific challenges in the years to come, and having access to their expertise is crucial to our success. In regards to Mr. Blais, we hope to be able to offer him a permanent position with D-Wave upon the completion of his studies at Sherbrooke.

Our second interest in this collaboration is the completion of the tasks listed in section 1. . Specifically our best case scenario here is the obtaining of the following:

- A patentable method for performing gate operations in the physical systems [REDACTED]
[REDACTED]
- A patentable method for [REDACTED] qubits in the physical systems being designed and manufactured by D-Wave and [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
- Development of a quantum algorithm [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- Adaptation of existing [REDACTED] to the specific physical systems that [REDACTED]

We emphasize again that we realize that the final outcome of research of this nature cannot be predicted with any certainty, and that the objectives listed above are «best case scenarios», indicating the directions in which we wish the research to head.

Work done by the researchers at the University on other topics than those specifically mentioned in this section will remain the property of the researcher and results from such activities will be published without seeking the approval of D-Wave.

3. Support

Support will be both technical and financial. It will provide access to conference calls between D-Wave and its collaborators and timely think-tank activities of collaborators at D-Wave's installations (or vice versa, of D-Wave researchers at the University of Sherbrooke).

Financial support will also be available for salaries, computers and software licenses. It will also be available for relevant workshops and targeted conferences, visits to the laboratories of other D-Wave collaborators and other targeted research teams.

The researchers at Sherbrooke will also be supported in their activities by being informed on the experimental and theoretical activities of D-Wave staff and collaborators. In particular, they will be kept informed on research problems and achievements.

	1 Jan 00 to 1 May 00	1 May 00 to 31 Dec 00	2001	2002
Reimbursement of Salary of Alexandre Blais paid by Principal Investigators' Research funds				
Salary (Alexandre Blais) ¹ + benefits				
Honorarium for supervision, deposited in dean's budget for research.				
Conference (2 per year) ³				
Computer time ^{2,4}				
Subtotal				
Overhead				
Total				

Total cost of the Project	
---------------------------	--

- ¹ The figure quoted here is all cash. Options to buy shares are included as per page 1 of this agreement.
- ² A purchase order for computer and software will be given to Alexandre Blais for buying a computer that will remain D-Wave property but will be used for the duration of the Project in Sherbrooke.
- ³ Trips to D-Wave and D-Wave meetings will be reimbursed by D-Wave directly to either Alexandre Blais or the Principal Investigators.

- ⁴ Only actual computing time will be charged if extensive supercomputer time is needed. In such a case the rate prescribed by the RQCHP (Réseau Québécois de Calcul Haute Performance) will be applied. In case the CERPEMA'S Beowulf cluster is used, the industry rate prescribed by the Center will be used (much cheaper). We assume that we do not need to ask D-Wave approval for computing time under [REDACTED] per year. If we exceed this amount, permission will be asked.

Note: The amounts in the different budget items are estimates; partial transfers may be required amongst the different items, at constant total cost [REDACTED]

4. Time Frames and involvement

We do not wish to place time constraints on the obtaining of the results indicated above. The total time frame being considered for this agreement is 36 months.

Concerning André-Marie Tremblay and Serge Lacelle, their role in this collaboration will be to supervise Alexandre Blais and they are not generally expected to contribute otherwise independently to this project.

As for Alexandre Blais, it is in his interest, both professional and financial, to complete as many of the above objectives as possible during this 36 months period. However, as a Ph.D. student, he must keep a broader perspective on his research topic and will be allowed time to pursue research in more academically oriented areas. The results from any activities he may pursue outside the objectives of the present research agreement (as describe in section 2. of the present letter) will be supported by a scholarship and will remain his property.

Sufficient time will also be allowed for Alexandre Blais to redo Alexandre Zagoskin's calculations concerning [REDACTED]. He will also be allowed time to participate to targeted workshops and visits to other research teams installations, as describe in section 3.

Exhibit C

United States Provisional Application 60/257,624 Filing Receipt



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
60/257,624	12/22/2000		75	10945 V1	4		

CONFIRMATION NO. 9166

FILING RECEIPT



OC00000006108490

Gary J. Edwards
SKJERVEN MORRILL MacPHERSON LLP
Suite 700
25 Metro Drive
San Jose, CA 95110-1349

Date Mailed: 05/23/2001

Receipt is acknowledged of this provisional Patent Application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Mohammad H.S. Amin, Vancouver, CANADA;
Timothy Duty, Vancouver, CANADA;
Alexander Omelyanchouk, Vancouver, CANADA;
Geordie Rose, Vancouver, CANADA;
Alexandre Zagoskin, Vancouver, CANADA;

If Required, Foreign Filing License Granted 05/23/2001

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Intrinsic phase shifter as an element of a superconducting phase quantum bit

Data entry by : STEPHANOS, MENBEREWORK Team : OIPE

Date: 05/23/2001



**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

PLEASE NOTE the following information about the Filing Receipt:

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 500 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:

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Office of Initial Patent Examination
Customer Service Center
Washington, DC 20231